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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/807,214	08/08/2001	Takaya Sato	8292.024	4316

7590 10/14/2003

APEX JURIS PLLC  
13194 EDGEWATER LANE NORTHEAST  
SEATTLE, WA 98125

EXAMINER

MERCADO, JULIAN A

ART UNIT	PAPER NUMBER
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1745

DATE MAILED: 10/14/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/807,214

Applicant(s)

SATO ET AL.

Examiner

Julian A. Mercado

Art Unit

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**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-5 are rejected under 35 U.S.C. 102(b) as being anticipated by Hayashi et al. (JP 8-287951).

The examiner relies on the machine-translation of Hayashi et al. as obtainable from the JPO website ([http://www.ipdl.jpo.go.jp/homepg\\_e.ipdl](http://www.ipdl.jpo.go.jp/homepg_e.ipdl)).

Regarding independent claims 1 and 3, Hayashi et al. teaches an electrode structure for an electrical component in which ions migrate between electrodes, e.g. a nonaqueous electrolyte secondary battery having an electrode active substance such as vanadium oxide coated with an ion-conducting polymer such as polyaniline. ([0004-0005], see example in [0009], also applies to dependent claim 4) Hayashi et al. refers to the electrode active substance as “active material (2)” and the ion-conducting polymer as “active material (1)”. The two active materials are mixed in solution and made to adhere to a current-collecting member, thereby obtaining “an electrode with a thickness of 45 micrometers”. (*ib*, applies to dependent claim 2)

Regarding dependent claim 5, an ion-conducting substance such as the non-aqueous electrolyte has a separator disposed therein. ([0007]) Alternatively, Hayashi et al. discloses that a solid polymer electrolyte may be employed. (applies to dependent claim 4)

Claims 1-5 and 11-13 are rejected under 35 U.S.C. 102(b) as anticipated by Bai et al. (U.S. Pat. 5,744,258)

Regarding independent claims 1, 3 and 11, Bai et al. teaches a hybrid electrode structure for an electrical component in which ions migrate between electrodes having an electrode active substance such as Li-intercalating carbon, *inter alia*, coated with a polymer such as polyaniline. (col. 2 line 2-31, also applied to dependent claim 4) The two active materials are combined and made to adhere to a current-collecting member. (col. 2 line 32-48, applies to dependent claim 2)

Regarding dependent claim 5, an ion-conducting substance such as the non-aqueous electrolyte has a separator disposed therein. (col. 5 line 14-18, line 67 et seq.) Alternatively, Bai et al. discloses that a solid polymer electrolyte may be employed. (col. 5 line 61-63, applies to dependent claim 4)

Independent claim 11 claims an electric double-layer capacitor. Bai et al.'s hybrid electrical energy device has a double-layer with active materials [42, 44] and the high pulsed power of a capacitor. (Figure 3, col. 3 line 4-43, col. 1 line 57 et seq., applies to dependent claims 12-13) To this extent, Bai et al. is relied on to teach an electric double layer capacitor both in structure and in function.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 6-10 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Hayashi et al. as applied to claims 1-5 above.

The teachings of Hayashi et al. are discussed above. Claims 6-10 are drawn to a method of making while also incorporating limitations equivalent to those in claims 1-5 addressed above. The teachings of Hayashi et al. are applied to independent claim 6 and dependent claims 7-10 to the extent where these limitations have already been addressed above.

The discussion of the method limitations here follows. Hayashi teaches that the composition comprising active materials (1) and (2) are applied using a “wire bar”. [0009] The active materials are mixed in a solvent of NMP to make a “paint” solution, then applied to the charge collector, i.e. electrode to a specified thickness. As to the instant press-mixing, absent of a showing by applicant that the claimed invention distinguishes over the reference, the coating method described in Hayashi would naturally flow and inherently require pressing and sliding of the mixture via the wire bar, doctor blade or any other equivalent application device. *In re Best*, 195 USPQ at 433, footnote 4 (CCPA 1977) and *In re Spada*, 15 USPQ 2d 1655 (Fed. Cir. 1990) Hayashi is considered to inherently employ the claimed press-sliding of the mixture to the extent that coating step encompasses “pressing” of mixture onto the collector base, then “sliding” the slurried mixture across its entire surface.

Claims 6-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bai et al. as applied to claims 1-5 and 11-13 above, in view of Dahn et al. (U.S. Pat. 4,969,254)

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The teachings of Bai et al. are discussed above. The teachings of Bai et al. are applied to independent claim 6 and dependent claims 7-10 (drawn to the method) to the extent where these limitations have already been addressed above.

While Bai et al. does not explicitly teach press-sliding of the active material mixture, Dahn et al. teaches mixing of particulate material in preparation of an electrochemical cell including steps of rolling, i.e. sliding of the substrate followed by subsequent pressing. (col. 4 line 47 et seq.) At the time the invention was made, it would have been obvious to one of ordinary skill in the art to employ a press-sliding step in Bai et al.'s invention for reasons such as controlled thickness of the deposited layer. (col. 4 line 60-62)

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. U.S. Pat. 4,638,407 to Lundsgaard is cited to teach a conventional double-layer capacitor.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Julian A. Mercado whose telephone number is (703) 305-0511. The examiner can normally be reached on Monday through Friday.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick J. Ryan, can be reached on (703) 308-2383. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

A handwritten signature in black ink, appearing to be "JAM", written over a circular stamp.A handwritten signature in black ink, appearing to be "Patrick Ryan", written above the printed name.

Patrick Ryan  
Supervisory Patent Examiner  
Technology Center 1700